MAYOR, DAY, CALDWELL & KEETON, L.L.P.
700 LOUISIANA, SUITE 1900
HOUSTON, TEXAS 77002-2778
(713) 225-7000
TELECOPY (713) 225-7047
TELEX 382813

DEBRA L. BAKER
PARTNER
225-7369

December 2, 1992

BY FEDERAL EXPRESS

Mr. John Lindsay
NOAA c/o U.S. EPA
JFK Federal Building
HEE CAN-6
Boston, MA 02203

Re: Bailey Site

Dear Mr. Lindsay:

Enclosed please find the Report on Sediment Bioassays and Benthic Community Characterizations for the Bailey Site. The Bailey Site Settlors Committee and certain other PRPs are in the process of devising a settlement proposal and hope to forward their proposal to the Trustees in the near future.

Please do not hesitate to contact me if you have any questions or need additional information.

Very truly yours,

Debra L. Baker, Counsel
Bailey Site Settlors Committee

Enclosure

cc: Mr. J. B. Schmidt
Superfund and Emergency Response Section
Texas Water Commission
1700 North Congress
Post Office Box 13087
Capitol Station
Austin, Texas 78711-3087

800007

Mr. Don Pitts
Environmental Contaminants Branch
Resource Protection Division
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, Texas 78744

Mr. Steven Spencer, Ph.D.
Environmental Specialist Contaminants
U.S. Fish & Wildlife Service
17629 El Camino Real
Suite 211
Houston, Texas 77058

Mr. Glenn Sekavec
Regional Environmental Officer
United States Dept. of the Interior
Office of the Secretary
Office of Environmental Affairs
Post Office Box 649
Albuquerque, New Mexico 87103

Mr. Tom Nuckols
Director, Environmental Law Section
Texas General Land Office
1700 North Congress Avenue
Austin, Texas 78701-1495

Ms. Stephanie W. Kelley
U.S. Department of Commerce
National Oceanic & Atmospheric Administration
Office of General Counsel
Southeast Region
9450 Koger Blvd., Suite 1
St. Petersburg, FL 33702

Mr. Chris Villarreal
Superfund Enforcement
United States Environmental
Protection Agency
Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Ms. LaReine K. Pound, P.E., Project Manager
Superfund Engineering Section
Pollution Cleanup Division
Texas Water Commission
Stephen F. Austin Building
1700 North Congress Avenue
P. O. Box 13087
Capitol Station
Austin, Texas 78711-3087

Ms. Christine Leopold
EPA Regional Counsel
Environmental Protection Agency
1445 Ross Avenue
Dallas, Texas 75202-2733

Response to Trustee's Comments on the Work Plan for Sediment Bioassays and Benthic Community Characterization[1]

COMMENTS 1 (Section 3.1.3, pg. 12):

The Trustees state that analysis of samples should evaluate sublethal effects as well as lethality and should employ more sensitive species.

RESPONSE

Section 3.1.3 has been amended to provide additional testing of sublethal effects. The endpoints of the various tests are specified in this section.

Nereis virens is recognized, by the Office of Marine and Estuarine Protection of U.S. EPA, as an acceptable organism for testing of both lethal and sublethal effects of potentially toxic sediments (EPA 503-8-90/002, January 1990). In order to evaluate both lethal and sublethal effects the testing protocol employed will be extended from 10 days to 28 days. Lethality and bioaccumulation will be tested using *Nereis virens*. Due to the relatively long life span of this organism it is felt that natural variability in growth could potentially obscure toxic effects. As such, growth will not be evaluated as a sublethal effect for this test organism.

Mysidopsis bahia will be substituted for *Palaemonetes pugio*, as recommended by the Trustees. This organism will be evaluated for both lethality and for total growth, as a sublethal effect. Reproduction is not considered to be an appropriate sublethal effect for use in a 10 day test since it is likely that some gravid females will have shed their broods during that time period.

Macoma sp., a deposit feeding bivalve, will be used to evaluate the bioaccumualtion of polycyclic aromatic hydrocarbons (PAH's) as a sublethal effect. This organism was selected due to its relative inability to metabolize PAH's. This test will also be conducted over a 28 day period. Lethality will also be determined.

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[1]Sources of Trustee's Comments:

- Letter dated August 27, 1990 from John Lindsay to BSSC thru John Meyer.
- Letter dated September 10, 1990 from John Lindsay to Bruce Bodson.

COMMENT 2 (Section 3.1.3, pg. 12):

The Trustees express concern about use of water during sample sieving and the potential for animal matter to pass through the sieve.

RESPONSE:

Sediments are to be sieved by forcing them through a one millimeter sieve without washing. While it is recognized that the use of a 0.5 millimeter sieve is desirable for further removal of organisms and organic matter it is felt that the great increase in time required to accomplish this, accompanied by organic decomposition, will offset any benefit derived.

COMMENT 3 (Section 3.1.3, pg. 12):

The Settlors must recognize, and the work plan should state, the level of survival in the control samples below which the test will be terminated and considered invalid. Depending on the test and species, controls should show somewhere between 90% and 70% survival.

RESPONSE:

The levels of survival in control samples, below which the test will be considered invalid are as follows:

10 day test employing	*Mysidopsis bahia*	70%
28 day test employing	*Nereis virens*	80%
28 day test employing	*Macoma sp.*	80%

COMMENT 4 (Section 3.1.3, pg. 13):

After the 30 mm layer of sediment is placed on the bottom of the aquaria and water is added, we are uncomfortable and opposed to the idea of removing the water used to initially cover the sediments after the first hour. This action will likely reduce the toxic potential by dilution, and consequently lower our faith in the results. Adequate aeration should sufficiently preserve the livability of the test chamber unless compromised by the toxic potential of the contaminants. We recognize that this technique is provided for in the 1978 as well as the new draft 1990 EPA/Corps protocols, but we prefer that water not be replaced throughout the test period.

RESPONSE:

Replacement of water in the testing chamber is recommended in the new 1990 EPA/CORPS protocols. Since the area being evaluated is subject to tidal flushing it is not felt that the replacement of the water in the testing chamber will result in any unnatural leaching of toxic constituents from the sediments.

COMMENT 5 (Section 3.1.3, pg. 13):

For clarification we would prefer that the use of the terms "control" and "background" be used throughout instead of "true control" and "reference control"

RESPONSE:

The terms "control" and "background" have been substituted for the terms "true control" and "reference control", respectively, throughout the work plan.

COMMENT 6 (Section 3.1.4):

We recognize the desire of the Settlors to analyze and determine the toxic potential of the tests, but we caution that the trustees may similarly subject the findings to statistical analyses. We therefore request and stress the need for complete inclusion of all raw data, and actual calculations/manipulations of the data leading to conclusions of such times as homogeneity or heterogeneity of variances. Presentation of statistical endpoints alone, such degrees of freedom and probability will be insufficient to allow us to verify the determinations.

RESPONSE:

Section 3.1.4 has been amended to show that raw data, including copies of original laboratory data sheets, will be included as attachments to the bioassay report.

COMMENT 7 (Section 3.2.1):

If we understand correctly the three background samples are not taken in order to compensate for natural community variability, but rather to simply be used for comparative purposes.

RESPONSE:

The Trustees are correct in their understanding that three background samples are taken for comparative purposes rather than to compensate for natural community variability.

COMMENT 8 (Section 3.2.2):

It is my opinion that field samples should be stained with rose bengal at the time of fixation with formalin as ethanol causes the stain to leach from organisms. Consequently, staining during preservation will be less than totally effective.

RESPONSE:

Section 3.2.2 has been amended to reflect that the samples will be stained with rose bengal at the time of initial fixing in the field, rather than at the time of final preservation in the laboratory.

COMMENT 9 (Section 3.2.3):

We infer that a single replicate sample is being collected at each point along the transect. This aspect should be clarified in the work plan.

RESPONSE:

Section 3.2.3 has been modified to state that a single replicate sample will be taken at each sampling point on the transects.

COMMENT 10 (Section 3.2.3):

We infer that the entire sediment sample from the field will be returned to the lab prior to any sieving, please clarify.

RESPONSE:

The entire sediment sample will be preserved in the field and transported to the laboratory before any sieving is conducted.

COMMENT 11 (Section 3.2.3):

We prefer that sieving be accomplished with nested 1.0 mm and 0.5 mm sieves.